REMARKS

Claims 1-2, 4-12, and 14-20 are all the claims pending in the application. Claims 21-22, and 24-25 have been previously canceled without prejudice or disclaimer. Applicants graciously acknowledge that claims 6-12, and 14-20 have been allowed. Claims 1-2, and 4-5, stand rejected on prior art grounds. Claim 1 is amended herein. Applicants respectfully traverse the rejections based on the following discussion.

I. The Prior Art Rejections

Claims 1-2, and 4-5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Wei et al. (U.S. Patent No. 6,852,582), hereinafter referred to as "Wei", in view of Unger (U.S. Patent No. 6,777,960), and in further view of Yedur et al. (U.S. Patent No. 6,437,329), hereinafter referred to as "Yedur". Applicants respectfully traverse these rejections based on the following discussion.

Wei teaches an apparatus and method of carbon nanotube (CNT) gate field effect transistor (FET), which is used to replace the current metal gate of transistor for decreasing the gate width greatly. The carbon nanotube has its own intrinsic characters of metal and semiconductor, so it can be the channel, connector or next-level gate of transistor. Furthermore, the transistor has the structure of exchangeable source and drain, and can be defined the specificity by outside wiring.

Unger teaches a method of inferring the existence of light by means of a measurement of the electrical characteristics of a nanotube bound to a dye first of all involves bringing a nanotube derivatized with a dye into contact with two conductor tracks. An electrical parameter of the nanotube is then measured via the two conductor tracks without exposure to light. Then

PAGE 7/12 * RCVD AT 2/28/2006 10:15:54 AM [Eastern Standard Time] * SVR:USPTO-EFXRF-3/17 * DNIS:2738300 * CSID:3012618825 * DURATION (mm-ss):03-18

the dye bound to the nanotube is irradiated, and the electrical parameter of the nanotube is then measured via the two conductor tracks with exposure to light. The difference between the value of the electrical parameter measured without exposure to light and the corresponding parameter measured with exposure to light is then established. Finally it is inferred, as a function of the difference established, whether light is present.

Yedur teaches a system for analyzing a film and detecting a defect associated therewith includes a scanning probe microscope having a nanotube tip with a material associated therewith which exhibits a characteristic that varies with respect to a film composition at a location corresponding to the nanotube tip. The system also includes a detection system for detecting the material characteristic and a controller operatively coupled to the detection system and the scanning probe microscope. The controller configured to receive information associated with the detected characteristic and use the information to determine whether the film contains a defect at the location corresponding to the nanotube tip. It also includes a method of detecting a film composition at a particular location of a film or substrate. The method includes associating a material exhibiting a characteristic which varies with respect to a film composition with a nanotube tip of a scanning probe microscope and detecting the characteristic. The method then includes the step of determining a composition of a portion of the film using the detected characteristic.

However, amended independent claim 1 contains features, which are patentably distinguishable from the prior art references of record. Specifically, claim 1 recites, in part, "a carbon nanotube field effect transistor (CNT) spaced apart from said device to be monitored,..." which is not taught or suggested in any of Wei, Unger, or Yedur, or a combination thereof. Rather, Wei specifically teaches two CNTs with gates 41 and 42 having shared source/drain

PAGE 8/12 * RCVD AT 2/28/2006 10:15:54 AM [Eastern Standard Time] * SVR:USPTO-EFXRF-3/17 * DNIS:2738300 * CSID:3012618825 * DURATION (mm-ss):03-18

regions 43 and 44 (see FIG. 4 of Wei). Thus, it is impossible for the structure in Wei to have a CNT spaced apart from a device to be monitored as in the claimed invention due to the existence of the shared source/drain regions.

With respect to the proposed combination of Wei, Unger, and Yedur, pages 2-3 of the Office Action suggests that such a combination would be obvious to one having ordinary skill in the art. However, the USPTO in classifying these patents has concluded the contrary; i.e., that Wei, Unger, and Yedur are not in the same art field. The USPTO has classified Wei in U.S. Classes 438/195; 438/196; 438/587; and 438/591 with a field of search including 438/142, 195-197, 438/300, 585, 587, and 591. Conversely, the USPTO has classified Unger in U.S. Classes 324/702 with a field of search including 324/71.1, 702, 324/71.5, 71.6, 96, 414, 965, 751, 752, 753; 250/306, 423 R; 423/447.3; 435/6; and 204/157.41. Still conversely, the USPTO has classified Yedur in U.S. Classes 250/306; 356/73; 356/301; 250/234; 250/252 with a field of search including 250/306, 234, 250/252, 440.11; and 356/73, and 301. Thus, there are no overlapping classes. Accordingly, one of ordinary skill in the art would not be motivated to combine references from three separate and wholly different art fields as classified by the USPTO in order to try and teach the Applicants' claimed invention. Hence, the proposed combination of Wei, Unger, and Yedur is improper; accordingly claims 1-2 and 4-5 are patentable over Wei, Unger, and Yedur.

Insofar as references may be combined to teach a particular invention, and the proposed combination of Wei with Unger and Yedur, case law establishes that, before any prior-art references may be validly combined for use in a prior-art 35 U.S.C. § 103(a) rejection, the individual references themselves or corresponding prior art must suggest that they be combined.

For example, in In re Sernaker, 217 USPQ 1, 6 (C.A.F.C. 1983), the court stated:

PAGE 9/12 * RCVD AT 2/28/2006 10:15:54 AM [Eastern Standard Time] * SVR:USPTO-EFXRF-3/17 * DNIS:2738300 * CSID:3012618825 * DURATION (mm-ss):03-18

"[P]rior art references in combination do not make an invention obvious unless something in the prior art references would suggest the advantage to be derived from combining their teachings." Furthermore, the court in Uniroyal, Inc. v. Rudkin-Wiley Corp., 5 USPQ 2d 1434 (C.A.F.C. 1988), stated, "[w]here prior-art references require selective combination by the court to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself. . . . Something in the prior art must suggest the desirability and thus the obviousness of making the combination."

In the present application, the reason given to support the proposed combination is improper, and is not sufficient to selectively and gratuitously substitute parts of one reference for a part of another reference in order to try to meet, but failing nonetheless, the Applicants' novel claimed invention. Furthermore, the claimed invention, as amended, meets the above-cited tests for obviousness by including embodiments such as a CNT FET spaced apart from a device to be monitored. As such, all of the claims of this application are, therefore, clearly in condition for allowance, and it is respectfully requested that the Examiner pass these claims to allowance and issue.

As declared by the Federal Circuit:

> In proceedings before the U.S. Patent and Trademark Office, the Examiner bears the burden of establishing a prima facie case of obviousness based upon the prior art. The Examiner can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. In re Fritch, 23 USPQ 2d 1780, 1783 (Fed. Cir. 1992) citing In re Fine, 5 USPQ 2d 1596, 1598 (Fed. Cir. 1988).

Here, the Examiner has not met the burden of establishing a prima facie case of obviousness. It is clear that, not only does Wei fail to disclose all of the elements of the claims of the present invention, particularly, the CNT FET being spaced apart from the device to be

PAGE 10/12 * RCVD AT 2/28/2006 10:15:54 AM [Eastern Standard Time] * SVR:USPTO-EFXRF-3/17 * DNIS:2738300 * CSID:3012618825 * DURATION (mm-ss):03-18

monitored, as discussed above, but also, if combined with Unger and Yedur, fails to disclose these elements as well. The unique elements of the claimed invention are clearly an advance over the prior art.

The Federal Circuit also went on to state:

> The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. . . . Here the Examiner relied upon hindsight to arrive at the determination of obviousness. It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. Fritch at 1784-85, citing In re Gordon, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

Here, there is no suggestion that Wei, alone or in combination with Unger and Yedur teaches a method and apparatus containing all of the limitations of the claimed invention. Consequently, there is absent the "suggestion" or "objective teaching" that would have to be made before there could be established the legally requisite "prima facie case of obviousness."

In view of the foregoing, the Applicants respectfully submit that the cited prior art reference, Wei, is not proper and does not constitute prior art for the purposes of teaching the claimed invention, and even if Wei were properly concerned, it still does not teach or suggest the features defined by amended independent claim 1 and as such, claim 1 is patentable over Wei alone or in combination with Unger and Yedur. Further, dependent claims 2 and 4-5 are similarly patentable over Wei alone or in combination with Unger and Yedur, not only by virtue of their dependency from patentable independent claims, respectively, but also by virtue of the additional features of the invention they define. Thus, the Applicants respectfully request that these rejections be reconsidered and withdrawn. Moreover, the Applicants note that all claims

PAGE 11/12 * RCVD AT 2/28/2006 10:15:54 AM [Eastern Standard Time] * SVR:USPTO-EFXRF-3/17 * DNIS:2738300 * CSID:3012618825 * DURATION (mm-ss):03-18

are properly supported in the specification and accompanying drawings. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections.

II. Formal Matters and Conclusion

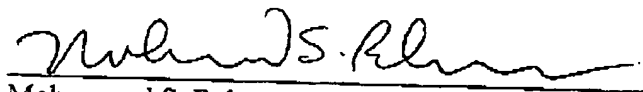
With respect to the rejections to the claims, the claims have been amended, above, to overcome these rejections. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections to the claims.

In view of the foregoing, Applicants submit that claims 1-2, 4-12, and 14-20, all the claims presently pending in the application, are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary. Please charge any deficiencies and credit any overpayments to Attorney's Deposit Account Number 09-0456.

Respectfully submitted,

Dated: February 28, 2006



Mohammad S. Rahman
Registration No. 43,029

Gibb I.P. Law Firm, LLC
2568-A Riva Road, Suite 304
Annapolis, MD 21401
Voice: (301) 261-8625
Fax: (301) 261-8825
Customer Number: 29154

PAGE 12/12 * RCVD AT 2/28/2006 10:15:54 AM [Eastern Standard Time] * SVR:USPTO-EFXRF-3/17 * DNIS:2738300 * CSID:3012618825 * DURATION (mm-ss):03-18